

## REMARKS

Claims 1, 10, 11, and 15 have been amended herein. Verbatim support for the amended claims can be found in the specification at page 7, lines 25-27. No new matter is added.

Claim 19 stands withdrawn pursuant to the earlier restriction requirement.

Claims 1-18 remain active in the case. Favorable reconsideration is respectfully requested.

### **Restriction Requirement:**

In confirmation of the earlier telephone restriction response, Applicants elect, with traverse, Group I, Claims 1-18.

Restriction is proper only if the restricted claims are independent or patentably distinct and there is no serious burden placed on the Office if restriction is not required (see MPEP §803). The burden is on the Office to provide reasons and/or examples to support any conclusion of patentable distinctness between the restricted claims (MPEP §803). Applicant respectfully traverses the restriction requirement on the grounds that the Office has not carried the burden of providing any reason and/or example to support the conclusion that the claims of the restricted groups are, in fact, distinct.

In the present restriction requirement, the Office has simply noted, without any further discussion, that the invention recited Group I (Claims 1-18) is distinct from the invention recited in Group II (Claim 19). The Office states only that the two groups of claims define "distinct processes which are classified separately and are divergent subject matter," and further that "A reference anticipating one of the above groups *may* not render the other obvious." Applicants respectfully submit that the reasons supplied by the Office are insufficient to support the conclusion of patentable distinctness between the two groups of claims. Applicants respectfully submit that the Office has simply identified mutually exclusive groups of claims and issued the restriction requirement on that basis alone.

Applicants also note that insofar as the language of Claim 19 closely mirrors the language of Claim 1, there is no additional burden on the Office if the restriction requirement is withdrawn.

Applicants therefore submit that the restriction requirement is improper. Withdrawal of the restriction requirement is respectfully requested.

**Rejection of Claims 1-18 Under 35 USC §103(a) Over Bon et al. (1994) *J. Org. Chem.* 59:4035-4036, U.S. Patent No. 5,395,974 to McKinney, and U.S. Patent No. 5,587,498 to Krogh et al.:**

This rejection is believed to have been overcome, in part, by appropriate amendment to the claims, and is, in part, respectfully traversed.

With respect to independent Claims 1, 10, 11, and 15, this rejection is believed to have been overcome, in major part, by requiring that the reaction take place in an aromatic, aprotic solvent. See page 7, lines 25-27 of the application as filed. This change is submitted as overcoming the rejection of these claims because the primary reference to Bon et al. discloses using only dichloromethane as a solvent, and the two secondary references, the McKinney patent and the Krogh et al. patent, describe reactions that do not use a solvent at all. Thus, the combination of Bon et al., McKinney, and Krogh et al. does not teach or suggest running a transamidation or amide methathesis reaction in an aromatic, aprotic solvent.

Specifically, see footnote 13 of the Bon et al. paper, at page 4035, left-hand column. Footnote 13 recites the experimental conditions used by Bon et al.:

In a typical experiment [the] amide... and [the] amine... were added to a suspension of aluminum chloride... in 1,2-dichloromethane... at 0°C. The mixture was then stirred at rt, or if necessary at 90°C....

In short, dichloromethane is the only solvent mentioned in the Bon et al. paper. Dichloromethane is not an aromatic solvent, which is required by the language of the claims as amended.

Combining Bon et al. with both the McKinney patent and the Krogh et al. patent does not cure the shortcomings of the Bon et al. paper because the reactions described in McKinney and Krogh et al. do not use a solvent at all. Instead, the reactants are introduced into a high-pressure reaction chamber (along with a catalyst) and the reactions are induced by increasing the temperature and pressure with the reaction chamber. For example, in the McKinney patent, different types of nylon and ammonia are introduced into the reaction chamber (along with a catalyst) and reacted at 300°C and 1,000 psig. No solvent is used in the reaction. See Example 1 of McKinney, starting at column 4, line 18.

Likewise, in the Krogh patent, an amine and a carboxylic acid are reacted in the presence of a supported catalyst at, for example, 220 to 250°C and 300 psig. No solvent is used in the reaction.

Thus, the combination of references does not teach conducting a transamidation reaction or an amide metathesis reaction in the solvents recited in the claims as amended.

This rejection is also traversed, in part, because there is no motivation to combine the references in the first instance, and, even if the combination is made, there is no expectation of success based upon the different reactions and the high temperatures and pressures required in the applied references.

Regarding the motivation to combine the references, only the Bon et al. paper is drawn to a transamidation reaction. On this score, Applicants note that independent Claims 1, 11, and 15 as originally submitted (and as amended) positively require that a transamidation or an amide metathesis reaction take place. Absent an improper use of Applicants' own specification, there is no motivation to combine Bon et al. with either of the McKinney or the Krogh et al. patents because neither of these two patents describe transamidation or amide metathesis reactions.

Specifically, the McKinney patent is directed to an ammonolysis reaction wherein nylon (a polyamide) is reacted with ammonia to yield amide monomers. This reaction simply is not a transamidation reaction, nor an amide metathesis reaction, as is positively required in the present claims. It is a hydrolysis reaction that generates amine-, amide-,

and caprolactam (CL), 6-aminocaproamide (ACAM), and 6-aminocapronitrile (6ACN) from nylon 6....

The reaction co-produces water which, because of the equilibrium nature of the reaction, inhibits complete conversion of the intermediary formed amides to nitriles.

Similarly, the Krogh et al. patent is directed to a reaction between an amine and a carboxylic acid to yield an amide. In short, the Krogh et al. patent describes an “amidation” reaction, as in a reaction to make amides. While such a reaction is nominally relevant to independent Claim 10, note that the Krogh et al. patent does not describe any type of reaction between two different amides or between an amide and an amine pair, to yield an amide metathesis or a transamidation reaction (respectively). Nor does the reaction yield an amide product by reaction of an amide/amine pair, as is positively required by Claim 10. See, for example, the paragraph spanning columns 2 and 3 of the Krogh et al. patent:

Likewise, in a preferred embodiment, the amine is selected from the group consisting of ammonia, primary amines, and secondary amines. The carboxylic reactant is selected from the group consisting of  $\alpha$ -mono- and disubstituted carboxylic acids.

Because the two secondary references to McKinney and to Krogh et al. are directed to reactions that are completely different from the reactions described in the Bon et al. paper, and also completely different from the claimed reaction, Applicants submit that the Office has failed to establish a *prima facie* case of obviousness because there is no motivation or suggestion to combine these references in the first instance.

As a necessary corollary, Applicants respectfully submit that the Office is improperly using Applicants' own specification to provide the suggestion or motivation that is lacking in the applied references. However, Applicants' own specification is not prior art. The motivation or suggestion to combine one or more references must be supplied by the references themselves, and not by Applicants' own disclosure.

Moreover, even if the combination is made, the combined references do not suggest the claimed invention. The present claims positively require that two different amides be reacted with one another or that an amide and an amine be reacted. The reaction must take place in an aromatic, aprotic solvent. The combination of the Bon et al., McKinney, and

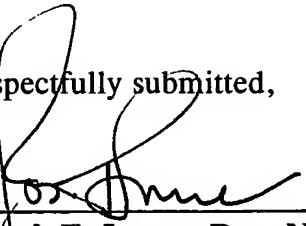
Moreover, even if the combination is made, the combined references do not suggest the claimed invention. The present claims positively require that two different amides be reacted with one another or that an amide and an amine be reacted. The reaction must take place in an aromatic, aprotic solvent. The combination of the Bon et al., McKinney, and Krogh et al. fail to teach or suggest such a reaction because the primary reference to Bon et al. is limited entirely to reactions that take place in dichloromethane, and the two secondary references do not use any solvent at all.

Applicants therefore submit that the rejection of Claims 1-18 under §103(a) in view of Bon et al., McKinney, and Krogh et al. is improper. Withdrawal of the same is respectfully requested.

#### CONCLUSION

In light of the above amendment and remarks, Applicants submit that the application is now in condition for allowance. Early notification of such action is earnestly solicited.

Respectfully submitted,

  
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